

IN THE CLAIMS

List of the pending claims

1. (currently amended) An on-chip system on a substrate comprising:

at least one carrier ~~[[(10)]]~~ ~~integrally~~ holding a plurality of parts ~~[[(50)]]~~ integral to said at least one carrier;

an assembly area ~~[[(100)]]~~ having a cavity provided with alignment posts ~~means~~; and

a transport ~~(200, 250)~~ for moving said at least one carrier ~~[[(10)]]~~ to said assembly area ~~(100)~~, wherein said at least one carrier, said assembly area and said transport are integral to said substrate, and for moving a subset of said parts to said cavity onto said alignment posts.

2. (currently amended) The on-chip system as recited in claim 1, wherein said transport ~~cavity~~ is provided with a plurality of ~~posts~~ comb drives engaging gears.

3. (currently amended) The on-chip system as recited in claim ~~[[2]]~~ 1, wherein ~~said plurality of posts and said plurality of parts into place within said cavity are~~ said parts being stacked in a pre-assigned order.

4. (currently amended) The system as recited in claim 1, wherein said alignments ~~means are~~ form sidewalls of said cavity.

5. (previously presented) The on-chip system as recited in claim 1, wherein said plurality of parts are detached from said carrier after being placed in said cavity.

6. (currently amended) The on-chip system as recited in claim 1, wherein said plurality of parts are attached to said carrier by mechanical tabs ~~[[(70)]]~~.

7. (currently amended) The on-chip system as recited in claim 6, wherein said mechanical tabs ~~[[70]]~~ are removed by isotropic etch.

8. (currently amended) The on-chip system as recited in claim 6, wherein said mechanical tabs ~~[[70]]~~ are removed by electrical current that causes mechanical destruction of said tabs.

9. (currently amended) The on-chip system as recited in claim 6, wherein said mechanical tabs ~~[[70]]~~ are removed by laser ablation.

10. (previously presented) The on-chip system as recited in claim 1, wherein said plurality of parts are attached to said carrier by filling a gap between said carrier and said plurality of parts with material that is selectively etched with respect to the material that said carrier and said plurality of parts are made of.

11. (previously presented) The on-chip system as recited in claim 1, wherein said carrier is removed from said assembly area after that said parts have been detached.

12. (previously presented) The on-chip system as recited in claim 1, wherein the carrier remains in-situ after detaching said plurality of parts.

13. (currently amended) The on-chip system as recited in claim 1, wherein said plurality of parts and said assembly area are fabricated concurrently and assembled.

14. (currently amended) The on-chip system as recited in claim 1, wherein said transport ~~means~~ are is controlled by a driver ~~driving means~~.

15. (currently amended) The on-chip system as recited in claim 14, wherein said driver ~~driving means~~ comprises comb drives coupled to gears.

16. (currently amended) The on-chip system as recited in claim 15, wherein said gears engage matching teeth [[on]] said carrier.

17. (previously presented) The on-chip system as recited in claim 16, wherein said gears are provided with a shoulder to stabilize said carrier.

18. (previously presented) The on-chip system as recited in claim 17, wherein said shoulders ride over said matching teeth positioned on the sides of said carrier.

19. (withdrawn) An on-chip system comprising:

a plurality of carriers respectively holding a plurality of parts, said parts being integral to said respective carriers;

an assembly area having a cavity provided with alignment means, said alignment means further comprising means for stacking said carriers; and

at least one transport means for moving said plurality of carriers to said assembly area.

20. (withdrawn) The on-chip system recited in claim 19, wherein said alignment means and said sidewalls of said cavity are sloped to aid align said carriers.

21. (withdrawn) The on-chip system recited in claim 19, wherein said assembled parts are used in-situ.

22. (withdrawn) The on-chip system recited in claim 19, wherein said assembled parts are transferred to a substrate as a stand-alone device.

23. (withdrawn) The on-chip system recited in claim 19, wherein said assembled parts are transferred as a sub-assembly added to sub-assemblies of a similar type.

24. (new)) An on-chip system on a substrate comprising:

an assembly area having a cavity provided with alignment posts, said posts receiving a plurality of parts to be assembled integral to at least one carrier; and

a transport moving by way of a mechanical device said at least one carrier to said assembly area into position for assembly by having said at least one carrier surround or superpose said cavity in said assembly area, and transferring said parts from said at least one carrier to said assembly area using said alignment posts.